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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VERDIER, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			3745	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/560,360	Applicant(s) OCHIAI ET AL.	
	Examiner Christopher Verdier	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3745

Applicant's Amendment dated October 21, 2010 has been carefully considered but is non-persuasive. The Replacement Sheets of Drawings filed October 21, 2010 are acceptable and overcome the drawing objections set forth in the previous Office Action. The claims have been amended to overcome the rejections under 35 USC 112, second paragraph set forth in the previous Office Action. Correction of these matters is noted with appreciation.

Applicant's argument that the Office Action may refer to application 10/560,173 in reference to the double patenting rejections is correct. Although Applicant is correct that the double patenting rejections are provisional, these must be maintained until the claims no longer conflict in scope, or by filing of an appropriate terminal Disclaimer.

Applicant's arguments that Goto 6,492,611 does not disclose a Si electrode, that Si is not a metal but is a semimetal, and that Goto also does not specifically disclose a liquid having alkane hydrocarbons, but instead mentions water or oil, are not persuasive. Column 4, line 24 of Goto clearly states that the electrode 3 may be SiC. SiC is coated on a portion of an untreated component W by processing a portion as a workpiece of an electric spark machine with a tool electrode 3 of SiC (which includes Si) in a liquid including alkane hydrocarbons (oil containing hydrocarbons (column 4, lines 26-36).

Applicant's arguments that Magara 5,434,380 does not disclose use of a Si electrode or a SiC film formed, are not persuasive. Magara discloses a tool electrode 4 of Si (column 6, lines 55-57 and column 7, lines 15-17). A coating including SiC coated on a portion of an untreated component 5 is formed by processing a portion as a workpiece of an electric spark machine with a tool electrode 4 of Si in a liquid 8 including alkane hydrocarbons (mineral oil, kerosene, or silicon oil).

Art Unit: 3745

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. New claim 32 recites that the tool electrode consists essentially of Si. There is no support in the original disclosure for this added limitation, and “consists essentially” adds new matter, because it would include minor elements that are not actually disclosed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by WIPO Publication WO 00/53896 (figures 1-2; US 6,769,866 is the English equivalent). Disclosed is an airfoil 1 of a rotor a turbine engine, comprising: a main body including a convex suction sidewall faced to a suction side, a concave pressure sidewall opposed to the suction sidewall, a leading edge 12, a trailing edge 10 opposed to the leading edge, a tip end face at an axially outer end of the main body, and an unnumbered platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail; a protective coating coated on the leading edge, the

Art Unit: 3745

suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including SiC (column 4, lines 42-50 in the US equivalent). A gas turbine engine includes the airfoil. The recitation in claim 29 of "An airfoil surface-treated by the method of claim 29" are product-by-process limitations. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3745

Claims 26 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goto 6,492,611 in view of Japanese Patent 5-148,615. Goto discloses a method for surface treatment on a component substantially as claimed, comprising: forming a coating including SiC coated on a portion W by processing the portion as a workpiece of an electric spark machine with a tool electrode 3 of SiC (which includes Si) in a liquid including alkane hydrocarbons (oil containing hydrocarbons). The tool electrode is formed by compression. Concerning claim 30, which recites that the tool electrode is formed from Si powder, and claim 31, which recites that tool electrode is formed by a method selected from the group consisting of compression, slurry pouring, metal injection molding and spray forming, these are product-by-process limitations. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

However, Goto does not disclose that the surface treatment is on a portion of a component of a turbine engine.

Japanese Patent 5-148,615 (paragraph 16) teaches that it is known to use electric spark machine coating to coat a turbine blade, for the purpose of providing a coating application method.

Art Unit: 3745

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the process of coating of Goto to a turbine blade, as taught by Japanese Patent 5-148,615, for the purpose of providing a coating application method.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goto 6,492,611 and Japanese Patent 5-148,615 as applied to claim 26 above, and further in view of Burns 6,042,898. The modified arrangement of Goto shows a method substantially as claimed as set forth above, but do not show processing the coating with a peening treatment.

Burns (column 1, lines 11-27) shows a gas turbine engine component having an oxidation resistant coating which is then peened, which introduces residual compressive stress, for the purpose of enhancing the material properties of the gas turbine engine component.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to process the coating of modified arrangement of Goto with a peening treatment, as taught by Burns, for the purpose of providing enhanced material properties.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goto 6,492,611 and Japanese Patent 5-148,615 as applied to claim 26 above, and further in view of WIPO Publication WO 00/53896. The modified arrangement of Goto shows all of the claimed subject including tool electrodes that move to approach portions of a workpiece, but does not show that the portion is limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component.

Art Unit: 3745

WIPO Publication WO 00/53896 (figures 1-2; US 6,769,866 is the English equivalent) shows an airfoil 1 of a rotor a turbine engine, comprising: a main body including a convex suction sidewall faced to a suction side, a concave pressure sidewall opposed to the suction sidewall, a leading edge 12, a trailing edge 10 opposed to the leading edge, a tip end face at an axially outer end of the main body, and an unnumbered platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail; a protective coating coated on the leading edge, the suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including SiC, for the purpose of providing oxidation resistance.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the coating on the modified turbine blade to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component, as taught by WIPO Publication WO 00/53896, for the purpose of providing oxidation resistance. The recitation of the coated portion being limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component is a matter of choice in design. It would have been obvious to a designer having ordinary skill in the art to limit the coating to specific portions of the turbine blade that are desired to be protected, in order to provide oxidation protection.

Claims 26 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magara in view of Japanese Patent 5-148,615. Magara discloses a method for surface treatment on a component substantially as claimed, comprising: forming a coating including SiC coated on a portion of a component 5 by processing the portion as a workpiece of an electric spark machine with a tool electrode 4 of Si in a liquid 8 including alkane hydrocarbons (mineral oil, kerosene, or silicon oil). Concerning claim 30, which recites that the tool electrode is formed

Art Unit: 3745

from Si powder, and claim 31, which recites that tool electrode is formed by a method selected from the group consisting of compression, slurry pouring, metal injection molding and spray forming, these are product-by-process limitations. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The tool electrode consists essentially of Si.

However, Magara does not disclose that the surface treatment is on a portion of a component of a turbine engine.

Japanese Patent 5-148,615 (paragraph 16) teaches that it is known to use electric spark machine coating to coat a turbine blade, for the purpose of providing a coating application method.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the process of coating of Magara to a turbine blade, as taught by Japanese Patent 5-148,615, for the purpose of providing a coating application method.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magara 5,434,380 and Japanese Patent 5-148,615 as applied to claim 26 above, and further in view of Burns 6,042,898. The modified arrangement of Magara shows a method substantially as claimed as set forth above, but do not show processing the coating with a peening treatment.

Art Unit: 3745

Burns (column 1, lines 11-27) shows a gas turbine engine component having an oxidation resistant coating which is then peened, which introduces residual compressive stress, for the purpose of enhancing the material properties of the gas turbine engine component.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to process the coating of the modified arrangement of Magara with a peening treatment, as taught by Burns, for the purpose of providing enhanced material properties.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magara 5,434,380 and Japanese Patent 5-148,615 as applied to claim 26 above, and further in view of WIPO Publication WO 00/53896. The modified arrangement of Magara shows all of the claimed subject including tool electrodes that move to approach portions of a workpiece, but does not show that the portion is limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component.

WIPO Publication WO 00/53896 (figures 1-2; US 6,769,866 is the English equivalent) shows an airfoil 1 of a rotor a turbine engine, comprising: a main body including a convex suction sidewall faced to a suction side, a concave pressure sidewall opposed to the suction sidewall, a leading edge 12, a trailing edge 10 opposed to the leading edge, a tip end face at an axially outer end of the main body, and an unnumbered platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail; a protective coating coated on the leading edge, the suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including SiC, for the purpose of providing oxidation resistance.

Art Unit: 3745

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the coating on the modified turbine blade to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component, as taught by WIPO Publication WO 00/53896, for the purpose of providing oxidation resistance. The recitation of the coated portion being limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component is a matter of choice in design. It would have been obvious to a designer having ordinary skill in the art to limit the coating to specific portions of the turbine blade that are desired to be protected, in order to provide oxidation protection.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 26 and 30-31 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 75 of copending Application No. 10/560,173. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Concerning claim 30, which recites that the tool electrode is formed from Si powder, and claim 31, which recites that tool electrode is formed by a method selected from the group consisting of compression, slurry pouring, metal injection molding and spray forming, these are product-by-process limitations. Even though product-by-process claims are limited by and defined by the

Art Unit: 3745

process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 3745

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 27 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 75 of copending Application No. 10/560,173 in view of Burns 6,042,898. Claim 75 of copending Application No. 10/560,173 claims substantially the same subject matter as claim 27 of the instant application, but does not claim processing the coating with a peening treatment.

Burns (column 1, lines 11-27) shows a gas turbine engine component having an oxidation resistant coating which is then peened, which introduces residual compressive stress, for the purpose of enhancing the material properties of the gas turbine engine component.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to process the coating of claim 75 of copending Application No. 10/560,173 with a peening treatment, as taught by Burns, for the purpose of providing enhanced material properties.

Claim 28 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 75 of copending Application No. 10/560,173 in view of Japanese Patent 5-148,615 and WIPO Publication WO 00/53896. Claim 75 of copending Application No. 10/560,173 claims substantially the same subject matter as claim 28 of the instant application, but does not claim that the portion is limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component by making a tool electrode approach the portion.

Art Unit: 3745

Japanese Patent 5-148,615 (paragraph 16) teaches that it is known to use electric spark machine coating with a moving electrode to coat a turbine blade, for the purpose of providing a coating application method.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the process of coating of claim 75 of copending Application No. 10/560,173 to a turbine blade with a moving electrode, as taught by Japanese Patent 5-148,615, for the purpose of providing a coating application method.

WIPO Publication WO 00/53896 (figures 1-2; US 6,769,866 is the English equivalent) shows an airfoil 1 of a rotor a turbine engine, comprising: a main body including a convex suction sidewall faced to a suction side, a concave pressure sidewall opposed to the suction sidewall, a leading edge 12, a trailing edge 10 opposed to the leading edge, a tip end face at an axially outer end of the main body, and an unnumbered platform at an axially inner end of the main body, the platform including a flow pathway and a dovetail; a protective coating coated on the leading edge, the suction sidewall, the pressure sidewall, the tip end face, and the flow pathway, the protective coating including SiC, for the purpose of providing oxidation resistance.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the coating on the modified turbine blade of claim 75 of copending Application No. 10/560,173 to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a flow pathway of the component, as taught by WIPO Publication WO 00/53896, for the purpose of providing oxidation resistance. The recitation of the coated portion being limited to a leading edge, a suction sidewall, a pressure sidewall, a tip end face, and a

Art Unit: 3745

flow pathway of the component is a matter of choice in design. It would have been obvious to a designer having ordinary skill in the art to limit the coating to specific portions of the turbine blade that are desired to be protected, in order to provide oxidation protection.

Claim 32 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 75 of copending Application No. 10/560,173 in view of Magara 5,434,380. Claim 75 of copending Application No. 10/560,173 claims substantially the same subject matter as claim 32 of the instant application, but does not claim that the tool electrode consists essentially of Si.

Magara shows a method for surface treatment on a component substantially as claimed, comprising: forming a coating including SiC coated on a portion of a component 5 by processing the portion as a workpiece of an electric spark machine with a tool electrode 4 of Si in a liquid 8 including alkane hydrocarbons (mineral oil, kerosene, or silicon oil). The tool electrode consists essentially of Si, as a material that one would consider acceptable for the electrode material.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the tool electrode of claim 75 of copending Application No. 10/560,173 such that tool electrode consists essentially of Si, as taught by Magara, as a material that one would consider acceptable for the electrode material

These are provisional obviousness-type double patenting rejections.

Art Unit: 3745

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Verdier/
Primary Examiner, Art Unit 3745

Christopher Verdier
Primary Examiner
Art Unit 3745